

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims

1 **Claim 1 (currently amended):** Twin-nozzle print head
2 ~~(30,30')~~ for a continuous inkjet deflection printer, the
3 print head ~~(30,30')~~ comprising:
4 - an ink drop generator assembly ~~(116,116')~~ having two
5 inkjet ejection nozzles ~~(31,32)~~, each of the inkjet
6 ejection nozzles having an ejection axis,
7 and arranged along ~~this~~ the ejection axis[[,]]:
8 - charge electrodes ~~(120,120')~~,
9 - first ~~(2,2')~~ and second ~~(3,3')~~ deflection electrodes
10 deflecting charged drops, these deflection electrodes
11 ~~(2,2', 3,3')~~ each having relative to said inkjet
12 ejection nozzles ~~(31,32)~~ an upstream part [[(15)]] and
13 a downstream part [[(16)]], an active
14 surface [[(11,10)]] of each deflection electrode [[
15 (2,3)]] being a surface of said electrode ~~(2,2', 3,3')~~
16 lying opposite a succession of drops,
17 - a single ink drop recovery gutter [[(6)]] for both said
18 inkjet ejection nozzles ~~(31,32)~~,
19 ~~characterized in that wherein the ejection axes of said~~
20 inkjet ejection nozzles ~~(31,32)~~ converge at a point located
21 on an axis of a single inlet orifice [[(61)]] of the single
22 recovery gutter, the point being [[(6)]] in the vicinity of

23 this inlet orifice ~~[[(61)]]~~ or upstream of this recovery
24 gutter ~~(6)~~.

1 **Claim 2 (currently amended):** Twin-nozzle print head
2 ~~(30,30')~~ as in claim 1, ~~characterized in that it has having~~
3 a plane of symmetry which is a plane perpendicular to a
4 plane defined by the converging ejection axes of the inkjet
5 ejection nozzles ~~(31,32)~~ and containing a bisector of the
6 angle formed between said converging ejection axes of ~~ink~~
7 ~~jet the inkjet~~ ejection nozzles ~~(31,32)~~.

1 **Claim 3 (currently amended):** Twin-nozzle print head
2 ~~(30,30')~~ as in claim 1, ~~characterized in that where the~~
3 first deflection electrode ~~(2,2')~~ deflecting charged drops
4 is a first electrode ~~[[(2)]]~~ common to the drops derived
5 from the inkjet ~~ink jet~~ ejection nozzles ~~(31,32)~~, this
6 common deflection electrode ~~[[(2)]]~~ for charged drops being
7 located between the second deflection electrodes ~~(3,3')~~ for
8 charged drops.

1 **Claim 4 (currently amended):** Twin-nozzle print head
2 ~~(30,30')~~ as in claim 2, ~~characterized in that wherein the~~
3 first deflection electrode ~~(2,2')~~ deflecting charged drops
4 is a first electrode ~~[[(2)]]~~ common to the drops derived
5 from the inkjet ~~ink jet~~ ejection nozzles ~~(31,32)~~, this
6 common deflection electrode ~~[[(2)]]~~ for charged drops being

7 located between the second deflection electrodes ~~(3,3')~~ for
8 charged drops.

1 **Claim 5 (currently amended):** Twin-nozzle print head
2 ~~(30,30')~~ as in claim 1, ~~characterized in that wherein the~~
3 active surface[[(11)]] of the first deflection electrode[[
4 (2)]] deflecting drops from a jet has a first concave
5 longitudinal curvature whose local radius of longitudinal
6 curvature is located in the plane formed by the converging
7 ejection axes of the inkjet ejection nozzles ~~(31,32)~~, in
8 that the active surface[[(10)]] of the second deflection
9 electrode[[(3)]] deflecting drops from said same jet has a
10 first convex longitudinal curvature, and in that the first
11 deflection electrode[[(2)]] deflecting drops from said jet,
12 in its downstream part[[(16)]], has a recess[[(12)]]
13 having a contour[[(38)]].

1 **Claim 6 (currently amended):** ~~Print~~ Twin-nozzle print
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 said contour[[(38)]] has a most upstream point located in
4 the vicinity of the intersection before said recess of said
5 first deflection electrode[[(2)]] deflecting said jet, with
6 the ejection axis of said inkjet ejection nozzle ~~(31,32)~~ of
7 said jet[[inkjet]].

1 **Claim 7 (currently amended):** ~~Print-Twin-nozzle print~~
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 the recess[[(12)]] has symmetry relative to the plane
4 defined by the converging ejection axes of the inkjet
5 ejection nozzles ~~(31,32)~~.

1 **Claim 8 (currently amended):** ~~Print-Twin-nozzle print~~
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 the width of recess[[(12)]] ranges between two and 10 times
4 the diameter of the charged [[ink]]drops.

1 **Claim 9 (currently amended):** ~~Print-Twin-nozzle print~~
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 the recess[[(12)]] is in the form of an oblong slit of
4 which one opening leads to a part[[(22)]] which is the most
5 downstream of first electrode[[(2)]].

1 **Claim 10 (currently amended):** ~~Print-Twin-nozzle print~~
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 the space between the active surfaces ~~(10,11)~~ of deflection
4 electrodes ~~(3,2)~~ deflecting a jet derived from one of the
5 inkjet ejection nozzles ~~a nozzle (31,32)~~ is substantially
6 constant from upstream to downstream of the electrodes and
7 lies between 4 and 20 times the diameter of the charged
8 [[ink]]drops.

1 **Claim 11 (currently amended):** ~~Print~~ Twin-nozzle print
2 head-(30,30') as in claim 1, ~~characterized in that wherein~~
3 one ~~edge (22)~~ the most downstream edge of a first deflection
4 electrode[[(2)]] is more downstream than a surface[[(21)]]
5 that is most downstream of recovery gutter[[(6)]].

1 **Claim 12 (currently amended):** ~~Print~~ Twin-nozzle print
2 head-(30,30') as in claim 5, ~~characterized in that wherein~~
3 the second deflection electrode[[(3)]] deflecting an inkjet
4 has a groove[[(14)]] along an axis contained in the plane
5 defined by the converging ejection axes of the inkjet
6 ejection nozzles[[(31,32)]].

1 **Claim 13 (currently amended):** ~~Print~~ Twin-nozzle print
2 head-(30,30') as in claim 12, ~~characterized in that wherein~~
3 a bottom of groove[[(14)]] is joined to the active
4 surface[[(10)]] of said second electrode[[(3)]] via a
5 surface curved transversely along curve radii of greater
6 value than the radius of the charged [[ink]]drops.

1 **Claim 14 (currently amended):** ~~Print~~ Twin-nozzle print
2 head-(30,30') as in claim 5, ~~characterized in that wherein~~
3 tongues[[(24,25)]] of said first [[jet]]deflection
4 electrode deflecting a jet formed either side of the
5 recess[[(12)]] and second deflection electrode[[(3)]]
6 deflecting the same jet are curved transversely along curve

7 radii of greater value than the radius of the charged
8 [[ink]]drops.

1 **Claim 15 (currently amended):** ~~Print~~ Twin-nozzle print
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 the the inkjet ejection nozzles ~~(31,32)~~ have different
4 diameters.

1 **Claim 16 (currently amended):** ~~Print~~ Twin-nozzle print
2 head ~~(30,30')~~ as in claim 5, ~~characterized in that wherein~~
3 orifice [[(61)]] of the recovery gutter [[(6)]] is of oblong
4 shape.

1 **Claim 17 (currently amended):** Printer ~~characterized in~~
2 ~~that it is~~ equipped with a twin-nozzle print head according
3 to any of the preceding claims.

1 **Claim 18(new):** Twin-nozzle print head for a continuous
2 inkjet deflection printer, said print head comprising:
3 - an ink drop generator assembly having two inkjet
4 ejection nozzles, each of the inkjet ejection nozzles
5 having an ejection axis, these ejection axes converging
6 at a point located on an axis of a single inlet orifice
7 of a single ink drop recovery getter, the point being
8 in the vicinity of this inlet orifice or upstream of
9 this recovery gutter,

- 10 - charge electrodes arranged along the ejection axis of
- 11 the inkjet ejection nozzles,
- 12 - a plurality of deflection electrodes each having
- 13 relative to inkjet ejection nozzles an upstream part
- 14 and a downstream part, and each having an active
- 15 surface which is a surface said deflection electrode
- 16 lying opposite a succession of drops, the plurality of
- 17 deflection electrodes comprising a first deflection
- 18 electrode and second deflection electrodes,
- 19 - the first deflection electrode arranged along the
- 20 ejection axis of the inkjet ejection nozzles and
- 21 deflecting charged drops, said first deflection
- 22 electrode being common to the drops derived from the
- 23 inkjet ejection nozzles, having a recess having a
- 24 contour in the downstream part, and the active surface
- 25 of the first deflection electrode having a first
- 26 concave longitudinal curvature whose local radius of
- 27 longitudinal curvature is located in the plane formed
- 28 by the converging ejection axes of inkjet ejection
- 29 nozzles, and
- 30 - the second deflection electrodes arranged along the
- 31 ejection axis of the inkjet ejection nozzles and
- 32 deflecting charged drops, the active surface of which
- 33 having a first convex longitudinal curvature, the
- 34 common deflection electrode for charged drops being

35 located between the second deflection electrodes for
36 charged drops.

1 **Claim 19 (new):** Twin-nozzle print head as in claim
2 18, wherein the recess is in the form of an oblong slit of
3 which one opening leads to a part which is the most
4 downstream of first electrode.

1 **Claim 20 (new):** Twin-nozzle print head as in claim
2 19, wherein the recess has symmetry relative to the plane
3 defined by the converging ejection axes of the inkjet
4 ejection nozzles.